Atmosphere, Weather, and Climate

I Rationale:

Many of the delays and scrubs of rocket launches have been due to weather related issues. This lesson sequence provides possible ways of using the extensive NASA data base to introduce, review, or enhance topics dealing with atmosphere, weather, and climate.

II Procedures:

1. Recommended Activities
    - Read articles – "Highways of a Global Traveler: Tracking Tropospheric Ozone", "A Delicate Balance: Signs of Change in the Tropics", "Volcanoes and Climate Change", "Changing our Weather One Smokestack at a Time"
    - Have your students try the following activities
        1. "Precipitation(http://earthobservatory.nasa.gov/Observatory/Datasets/rainfall.gpcp.html)" – Allows students to create animation of precipitation over time
        2. "Total Ozone(http://earthobservatory.nasa.gov/Observatory/Datasets/ozone.toms.html)" – Allows students to create animation of ozone levels over time
    - Reference – navigate to http://earthobservatory.nasa.gov

III Content Standards Addressed:

National Science Education Standards:

- Unifying Concepts – Evidence, models, and explanation; Constancy, change, and measurement
- **D.1.8** – The atmosphere is a mixture of nitrogen, oxygen, and trace gases that include water vapor. The atmosphere has different properties at different elevations
- **E.2.3** – Science and technology are reciprocal

National Education Technology Standards:

- **A.6.1** – Students use technology resources for solving problems and making informed decisions
- **A.6.2** – Students employ technology in the development of strategies for solving problems in the real world